



Final Regulation Agency Background Document

Agency Name:	Department of Environmental Quality
VAC Chapter Number:	9 VAC 25-260
Regulation Title:	Water Quality Standards
Action Title:	State Water Control Board Adoption of Amendments to the Water Quality Standards for Triennial Review
Date:	March 31, 2003

Please refer to the Administrative Process Act (§ 9-6.14:9.1 *et seq.* of the *Code of Virginia*), Executive Order Twenty-Five (98), Executive Order Fifty-Eight (99) , and the *Virginia Register Form, Style and Procedure Manual* for more information and other materials required to be submitted in the final regulatory action package.

Summary

Please provide a brief summary of the new regulation, amendments to an existing regulation, or the regulation being repealed. There is no need to state each provision or amendment; instead give a summary of the regulatory action. If applicable, generally describe the existing regulation. Do not restate the regulation or the purpose and intent of the regulation in the summary. Rather, alert the reader to all substantive matters or changes contained in the proposed new regulation, amendments to an existing regulation, or the regulation being repealed. Please briefly and generally summarize any substantive changes made since the proposed action was published.

Water quality standards consist of designated uses of the water body and narrative and numeric criteria that protect those uses by describing water quality in general terms and specifically as numerical limits for physical, chemical and biological characteristics of water. Water quality standards are used in other water quality programs including the assessment of state waters, the listing of impaired waters and development of total maximum daily loads and establishment of Virginia Pollutant Discharge Elimination System permit limits.

The State Water Control Board adopted amendments to the State's Water Quality Standards Regulation at 9 VAC 25-260- 5, 10, 20, 30, 50, 140, 150, 170, 300, 310, 320, 340, 380, 390, 400, 410, 420, 430, 440, 450, 470, 480, 490, 500, 510, 520, 530, 540 and deleted sections 190-240. The Board also adopted a new regulation at 9 VAC 25-280-10 through 90 for the groundwater standards and criteria that were previously part of the Water Quality Standards regulation.

These amendments serve as the state and federal mandate to adopt, modify or cancel such standards every three years. The amendments include updates and revisions to water quality criteria, use designations, mixing zones and the antidegradation policy. Substantive changes include the addition of secondary contact bacteria criteria, the revision of approximately 30 existing numerical criteria and the addition of approximately 33 new numerical criteria and the placement of several waters in the Class VII "swamp waters" classification along with a new pH criteria for those streams. The changes are based on EPA requirements and recommendations, the Department of Environmental Quality (DEQ) staff requests, and public comments.

Statement of Final Agency Action

Please provide a statement of the final action taken by the agency: including the date the action was taken, the name of the agency taking the action, and the title of the regulation.

The State Water Control Board adopted the amendments to the Water Quality Standards regulation at their March 25, 2003 meeting.

Basis

Please identify the state and/or federal source of legal authority to promulgate the regulation. The discussion of this statutory authority should: 1) describe its scope and the extent to which it is mandatory or discretionary; and 2) include a brief statement relating the content of the statutory authority to the specific regulation. In addition, where applicable, please describe the extent to which proposed changes exceed federal minimum requirements. Full citations of legal authority and, if available, web site addresses for locating the text of the cited authority, shall be provided. If the final text differs from that of the proposed, please state that the Office of the Attorney General has certified that the agency has the statutory authority to promulgate the final regulation and that it comports with applicable state and/or federal law.

§ 62.1-44.15(3a) of the Code of Virginia, as amended, mandates and authorizes the Board to establish water quality standards and policies for any State waters consistent with the purpose and general policy of the State Water Control Law, and to modify, amend or cancel any such standards or policies established. The federal Clean Water Act at 303(c) mandates the State Water Control Board to review and, as appropriate, modify and adopt water quality standards. The corresponding federal water quality standards regulation at 40 CFR 131.6 describes the minimum requirements for water quality standards. The minimum requirements are use designations, water quality criteria to protect the designated uses and an antidegradation policy. All of the citations mentioned describe mandates for water quality standards.

Web Address sites where citations can be found:

Federal Regulation web site

<http://www.epa.gov/epahome/cfr40.htm>

Clean Water Act web site

<http://www4.law.cornell.edu/uscode/33/1313.html>

State Water Control Law (Code of Virginia) web site
<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+62.1-44.2>
<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+62.1-44.15>

The statutory authority is directly related to the regulation because the amendments proposed are modifications of the antidegradation policy, criteria and designated uses. An antidegradation policy, criteria and designated uses are requirements mandated under the citations listed above.

The amendments, additions and deletions do not exceed applicable federal minimum requirements.

The Office of the Attorney General has certified that the agency has the statutory authority to promulgate final text of the regulation.

Purpose

Please provide a statement explaining the need for the new or amended regulation. This statement must include the rationale or justification of the final regulatory action and detail the specific reasons it is essential to protect the health, safety or welfare of citizens. A statement of a general nature is not acceptable, particular rationales must be explicitly discussed. Please include a discussion of the goals of the proposal and the problems the proposal is intended to solve.

Water Quality Standards establish the requirements for the protection of water quality and of beneficial uses of these waters. The justification for the proposed regulatory action is via the state's legal mandate for a three-year review of the Water Quality Standards under the Code of Virginia §62.1-44.15(3a) and federal regulation at 40 CFR 131. During this review the Board must adopt, modify or cancel standards as appropriate. This rulemaking is needed because the last triennial review was completed in December 1997 and new scientific information is available to update the water quality standards. In addition, the Environmental Protection Agency (EPA) disapproved these sections of the regulation, which must be addressed as soon as possible by the state or EPA will promulgate the amendments.

This provision of the regulation is justified from the standpoint of the public's health, safety or welfare in that it allows for the protection of designated and existing uses of the water bodies and maintains high water quality where it exists. The goal of the proposal is to protect water quality and living resources of Virginia's waters for consumption of fish and shellfish, recreational uses and conservation in general. Making these changes will eliminate the possibility of EPA promulgating changes for Virginia that may or may not conform to state laws, policy or guidance.

Substance

Please identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. Please note that a more detailed discussion is required under the statement of the regulatory action's detail.

The amendments will add new definitions, modify the mixing zone and antidegradation policies, update the Table of Parameters with new and revised criteria and a reformatted table, state that the taste and odor criteria apply at the drinking water intake, move the groundwater standards to a new regulation, delete and modify special standards, add a site specific criterion for copper in Hampton Roads, update use designations for trout streams and public water supplies, identify Class VII swamp waters in the Chowan basin and rearrange the Upper, Middle and Lower James river basin tables.

Issues

Please provide a statement identifying the issues associated with the final regulatory action. The term “issues” means: 1) the advantages and disadvantages to the public of implementing the new provisions; 2) the advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please include a sentence to that effect.

The primary advantage to the public is that the updated numerical criteria are based on better scientific information to protect water quality. Another advantage to the public is that the numerical criteria now include all 307(a) pollutants recommended by EPA Region III for which 304(a) criteria have been published. This will ensure future protection of state waters if a new pollutant is found or a new industry is introduced. Some of the criteria are less stringent than those promulgated under the previous review completed in 1997. These include the saltwater copper criterion to protect aquatic life uses and the bacteria criteria to protect secondary contact recreational uses. The disadvantage is that the public may see this as an attempt to “lower the bar” on water quality. However, the scientific database supporting these criteria is technically correct and considered approvable by EPA under the Clean Water Act. Also, the goal is to set realistic, protective goals in water quality management and to maintain the most scientifically defensible criteria in the water quality standards regulation.

The advantage to the agency or the Commonwealth that will result from the adoption of these amendments will be more accurate and scientifically defensible permit limits. This is the direct result of the adoption of new and updated criteria and defensible mixing zone requirements for tidal waters. Another advantage is the adoption of a set of Class VII "swamp waters" with corresponding lower pH criteria. The adoption of these waters will ensure that water quality assessments are accurate for these waters and these waters will not be inappropriately placed on the 303(d) impaired waters list for these naturally low pH waters.

There is no disadvantage to the agency or the Commonwealth that will result from the adoption of these amendments.

Statement of Changes Made Since the Proposed Stage

Please highlight any changes, other than strictly editorial changes, made to the text of the proposed regulation since its publication.

9 VAC 25-260-5 - A clarification has been added to the definition of a mixing zone to indicate designated uses in the waters body *on the whole* are maintained.

9 VAC 25-260-20 - In the mixing zone section the term "saltwater" has been defined, drifting aquatic organisms were added to the list of protected organisms for saltwater and a waiver was added to the diffuser requirement. The subsection that describes the "allocated impact zone" was changed to say that the acute aquatic life criteria are not required to be attained rather than shall not be attained. The subsections that describe where the criteria apply have been clarified to specifically state where the acute and chronic criteria apply rather than just where "all applicable criteria" apply. It was specified that all waivers to mixing zones are done on a case by case basis (not just complete mix assumptions) as waivers will be case decisions and issued via the permit process. The USFWS commented that the Board did not have the authority to determine whether or not the ESA was violated as required in the waiver section. Therefore, this condition in the waiver section was removed (it is still a requirement for all mixing zones). Also, the waiver which says that thermal mixing zone requirements issued under 316(a) are in compliance with the subsection has been changed to say that 316(a) demonstrations are in compliance with the section. This is necessary because 316(a) is a Clean Water Act allowance that supercedes any mixing zone restriction set by the state.

9 VAC 25-260-30 - In order to make the regulation conform to the federal water quality standards regulation, the word *ensure* is substituted with *assure* in this section.

9 VAC 25-260-140 - Several criteria were adjusted in response to public comment and/or to match EPA's 1999 304(a) criteria (aldrin, cadmium, 1,1 dichloroethylene, 2,4 dichlorophenoxy acetic acid, methoxychlor, zinc). Also, the averaging period for saltwater copper has been changed to match EPA's more recent guidance for metals. Staff also removed the statement preceding the Table of Parameters that read "For those waters with multiple designated beneficial uses, the most stringent criteria in the following table shall apply."

9 VAC 25-260-170 - The enterococci criterion was removed from freshwater and transition zone waters were included under the saltwater enterococci criteria to be consistent with the primary contact criteria.

9 VAC 25-260-300 - This was clarified to indicate this requirement only applies to Part IX (river basin section tables) to avoid any future confusion over other types of designations.

9 VAC 25-260-310 - Special standard "m" was modified to state that storm water was excluded from these requirements. That was the intent of the original amendment and staff thought it needed more clarification.

9 VAC 25-260-380 - Added a paragraph to refer the reader to the special standards section. Currently, the river basin section tables do not contain this detailed location information that is found in the special standards.

9 VAC 25-260-410, 415, 420 and 430 - Lower, Middle and Upper James sections and the Appomattox subbasin sections have been expanded so that all the sections correspond to the Hydrologic Unit Codes (HUC).

9 VAC 25-260- 430 - Staff determined that the Maury River pH standard of 6.5 - 9.5 was misapplied to some of the tributaries to the Maury River. Therefore, the higher pH standard was removed from some of the tributaries.

Public Comment

Please summarize all public comment received during the public comment period and provide the agency response. If no public comment was received, please include a statement indicating that fact.

Summary of Comments Received on Definitions 9 VAC 25-260-5	Organization*
Remove the term "planktonic" from the definition of drifting organisms.	VMA
Objects to the definition of mixing zones and secondary contact. If a mixing zone definition is included, it should say that no WQS are exceeded or violated, and lethality and chronic effects are prevented.	JRA
The definition of use attainability analysis should include the requirement of a peer review to assure scientific confidence.	JRA
The definition of water quality standards should include narrative standards to prevent degradation of state waters.	JRA
Secondary contact recreation is inaccurately defined (boating, wading, fishing). While these activities may not result in immersion, it is unclear how lower uses and less stringent criteria complies with EPA guidance that people will use whatever waters bodies are available for recreation, regardless of the physical conditions.	CBF
<p>Staff Response to Definitions Comments</p> <p>The word “planktonic” correctly describes the types of organisms we intend to protect in mixing zones. Recommend leaving definition as proposed.</p> <p>We disagree that any other of the definitions are inaccurate; although a clarification has been added to the definition of a mixing zone to indicate designated uses in the waters body <i>on the whole</i> are maintained. All definitions were developed using either EPA guidance (WQS Handbook and the Technical Support Document for Water Quality Based Toxics Control) as well as EPA regulation.</p>	

* = A list of acronyms used for the organizations is at the end of this document.

Summary of Comments Received on Designated Uses 9 VAC 25-260-10	Organization
<p>Opposed to changing designated uses. If a water cannot meet a designated use due to naturally occurring pollutants or physical conditions, the answer is alert the public as to the impairment but leave the segment listed as not meeting standards so that future changes in technology and best management practices may one day be applied to the segment. Once a segment is re-designated to a lower standards it will lose future opportunities to improve the water quality.</p>	<p>JRA, Riverkeeper</p>
<p>Supports the application of the five-mile protection zone in all public water supply designations. Supports clarifying that the designations that include tributaries do not automatically include the tributaries to their headwaters. The background document provides that the Health Department supports this change.</p>	<p>VMA</p>
<p>Objects to subsection 20.F which allows the board to adopt seasonal uses without reclassifying a water body to have less stringent water quality criteria. Such a change should require appropriate public comment.</p>	<p>JRA</p>
<p>Stream classifications are questionable. Examples include Dry Run and Indian Draft in Allegheny Co. Both proposed as natural trout waters in section 12 of the James basin but these streams do not meet criteria of a Class iv natural trout water (no flow and/or too warm). Do not adopt any of the proposed stream classifications until the process for classifying streams is reviewed and modified.</p>	<p>Westvaco</p>
<p>Objects to the reduction of the PWS use protection above the low dam intake at Waterloo to 5 miles upstream and the general policy decision to do this in all PWS. This is a change from existing policy to protect to the headwaters. The 5-mile rule overlooks a complex set of factors affecting the safety of PWS in relation to upstream emissions. This leaves no protection of waters for future PWS use and will allow immediate degradation of every mile stream in Virginia that is more than 5 miles upstream. If the Board adopts the proposed 5 mile rule, it will have abrogated its responsibility of stewardship of water resources for the future.</p>	<p>Stetson</p>
<p>The water supply intake at Embry Dam is no longer in operation, a new PWS intake exists on the Rappahannock just below its confluence with Motts Run and a new PWS intake on the Rapidan River near Hunting Run will become operational within 12 months.</p>	<p>Spotsylvania</p>
<p>Concerned about the impact of the trout stream designation of Stony Creek, especially of chlorine will not be allowed for disinfection.</p>	<p>Edinburg</p>
<p>Use designations in 10 A were made without an analysis of whether they could be attained. Implementation of water quality programs would be more efficient if attainability were evaluated at the time of used designation or criteria adoption.</p>	<p>VAMWA</p>

Staff Response to Designated Uses Comments

All trout water and public water supply changes were made with the use attainability information provided by the Game Department and the Health Department which support the uses as amended in the proposal. The new water supply at Motts Run and the Rapidan is included. The inactive water supply at Embry Dam cannot be removed since it was an existing use on or after Nov. 1975. Existing uses cannot be removed per federal regulation at 40 CFR 131 and the Virginia Water Quality Standards at 9 VAC 25-260-20 H. There were mixed responses to the question posed by DEQ that we apply an automatic 5-mile protection zone in public water supplies, we believe this will be incorporated next triennial review with recommendations on each one by the VDH (as was done with this proposal). The Town of Edinburg will not be affected by the addition of Stony Creek as a trout stream - the halogen ban does not apply to DGIF class v natural trout streams.

Summary of Comments Received on Mixing Zones 9 VAC 25-260-20	Organization
<p>Concerned with mixing zones as this practice allows degradation of portions of state waters that do not show up on the impaired waters list. Also, concerns that the Board can waived mixing zone requirements in various circumstances. For example, waivers can be applied to 316(a) (thermal) mixing zones but these studies do not consider the detrimental effect of these zones on humans. The standards should state that mixing zones should not be allow to circumvent water quality standards for any reason.</p>	<p>JRA, Riverkeeper</p>
<p>In section 140, any exception to acutely or chronically toxic waters should be removed. Acute or chronic toxic conditions are unacceptable in any waters, including mixing zones.</p>	<p>JRA, Riverkeeper</p>
<p>Objects to mixing zones. They do not meet the antidegradation policy or protect stream uses and allow dischargers to use the stream as part of their treatment process, without compensating for the loss of uses.</p>	<p>JRA</p>
<p>The mixing zone language should be clarified in subsection 20.B that mixing zone concepts are used both to evaluate the need for VPDES permit limits, and to determine how such limits should be set.</p>	<p>VMA</p>
<p>The regulation is not clear if subdivision 20.B.3 applies to all other discharges, regardless of size even if they are not new or expanded; therefore it is unclear whether discharges less than 0.5 MGD would be eligible for a mixing zone.</p>	<p>VMA</p>
<p>The term "saltwater" is not defined in the regulation and it is not clear which waters would be considered saltwater for purpose of the mixing zone requirements. It is inappropriate to assume that all discharges to "transition zone" waters constitute discharges to saltwater.</p>	<p>VMA</p>
<p>There should be flexibility in requiring the installation of a subsurface diffuser in order for a facility to have a new or expanded mixing zone in saltwater. Amend subdivision 20.B.9 (the waiver provision) to add B.2.c as one of the requirements that can be waived upon a site-specific showing that the diffuser is not necessary. Also, there are instances where it is technologically infeasible to comply with the subsurface diffuser requirement (i.e., effluent discharges through a ditch for temperature control purposes).</p>	<p>VMA</p>
<p>The prohibition in subdivision 20.B.3.c against mixing zones extending more than 5 times the average depth along a line extending 1/3 of the water across the receiving water is arbitrary. If applied in a small tributary or embayment, this restriction may have a significant effect.</p>	<p>VMA</p>

Summary of Comments Received on Mixing Zones, cont....	Organizational
<p>Mixing zones are prohibited in lakes but there is no definition of the term "lake" or "pond" in subdivision 20.B.4. This prohibition should not include cooling ponds or lakes built to be the mixing zones or lakes on private property. The provision that provides that mixing zones cannot violate the Endangered Species Act in subdivision 20.B.7 is superfluous. The regulations already clearly state that the Endangered Species Act must be considered in all aspects of applying the water quality standards.</p>	VMA
<p>There may be a typographical error in subdivision 20.B.9. The provision allows the Board to waived subdivision B.1.d and e but the proposed change would eliminate e. The correct reference is B.1.c and d.</p>	VMA
<p>Opposed to paragraph A.2 which exempts mixing zones from the general standard. The general standards underlies the basic principles of the Clean Water Act. Mixing zones are blatant degradation of state waters and in violation of the Clean Water Act, the water quality standards.</p>	JRA
<p>Objects to the proposed changes as it provides even more flexibility in the use of mixing zones which are routinely allowed without sufficient consideration of the impacts to uses.</p>	JRA
<p>Objects to waivers to the even less stringent mixing zone requirements proposed. For example, a 316(a) thermal study may waive the mixing zone requirement if no detrimental effect on aquatic life is found. These studies are not peer reviewed, no impacts on human health are evaluated and DEQ does not have the expertise to evaluate all the potential impacts.</p>	JRA
<p>Signs should be posted in mixing zones to warn recreational uses and fisherman of harm.</p>	JRA
<p>Mixing zones should be on the impaired water list and TMDLs required.</p>	JRA
<p>Strongly objects to impact zones within mixing zones where acute criteria are not attained, as it is a blatant violation of the Clean Water Act.</p>	JRA
<p>Agrees that no mixing zone should be allowed that violate the federal or state endangered species acts. Should expand provision to protect the habitat or rare, endangered and threatened species and add language to prevent the use of mixing zones in spawning areas for fish and shellfish.</p>	JRA

Summary of Comments Received on Mixing Zones, cont....	Organization
<p>The mixing zone language may not protect federally listed sessile aquatic mollusks. EPA was supposed to conduct a 2-year review of the VA DEQ's implementation of the mixing zone policy but that was not done. Therefore, the service supports the additional language that can potentially strengthen the mixing zone evaluation process for permitting. The permit guidance now allows for best professional judgement in evaluation mixing zones where Federally listed species occur. However there should be a set procedure to review each VPDES permit to confirm whether the mixing zones occur where there are Federally listed aquatic species or designated critical habitat which could easily be checked via the DGIF on-line database. If this is not done, there may be adverse effects to listed species. The reference to "B.8" in the waiver section should be deleted. The Board does not have authority to determine a permittee's compliance with the Federal Endangered Species Act. The saltwater mixing zone language needs to include protection of drifting organisms.</p>	<p>USFWS</p>
<p>Disagrees with the DPB assessment that the current 50:1 dilution ratio used for chronic mixing zones in saltwater is too lenient. DEQ has approved chronic mixing zones for four Navy discharges that demonstrated the 50:1 was too stringent. Dilution factors were 54, 2130, 350 and 950.</p>	<p>Navy</p>
<p>Mixing policy should not apply to bioaccumulative substances or substances with sediment loading concerns due to direct effects on organisms.</p>	<p>DCR</p>
<p>Bioaccumulative and persistent toxic substances must be prohibited from mixing zones or else elevated levels will accumulate in fish and sediment. This will comply with the <i>Toxics 2000 Strategy</i> and will be protective of endangered and threatened species. To protect health and water quality, the general criteria and use designations must apply in mixing zones. Demonstrations for waivers should remain on the permit holder rather than the Board staff.</p>	<p>CBF</p>
<p>Supports addition of statement in 20 A (that mixing zone provisions do not violate the General Criteria). This confirms existing practices and interpretation.</p>	<p>VAMWA</p>
<p>Objects changing "shall " to "may" in 20 B. This suggests that instream dilution may be disregarded in establishing permit limits. If there are specific instances where dilution should not be allowed, those instances should be listed.</p>	<p>VAMWA</p>

Summary of Comments Received on Mixing Zones, cont...	Organization
<p>A clearer way to present 20 B 2 and 20 B 3 would be to specify (1) that all discharges must meet the provisions regarding passing organisms which are currently shown as a and b under both B 2 and B 3; (2) that new or expanded freshwater discharges greater than 0.5 MGD to saltwater meet proposed B 2 c and d, and (3) that all other discharges to saltwater meet either proposed B 2 c and d (diffuser provisions) <i>or</i> proposed B 3 c (size limits), at the permittees discretion.</p>	<p>VAMWA</p>
<p>"Properly designed diffuser" should be defined.</p>	<p>VAMWA</p>
<p>Change B 2 to "Result in exceedence of acute criteria beyond the allocated impact zone,..." This is consistent with other provisions in the regulation.</p>	<p>VAMWA</p>
<p>Shares the SWCBs concerns and recommend deleting the provision in 20 B 8 regarding endangered species protection. Extensive comments provided on this issue in the past and incorporated by reference. If this language remains, the reference in 20 B 9 b (2) to B 8 should be deleted because it might be interpreted (incorrectly in our view) as putting a new burden on the permittee to prove the negative, which is not DEQ's intent according to the preamble.</p>	<p>VAMWA</p>
<p>Supports the exemption provisions in 20 B 9; however it should state that requirements "must" be waived if certain conditions are met rather than "may" be waived.</p>	<p>VAMWA</p>
<p>DEQ has stated that all current and future permit applications for discharges to saltwater will include a review of mixing zones "where mixing zones have not been defined." We assume this means that any mixing zone not based on a default value meets the definition of defined and not subject to the new requirements.</p>	<p>VAMWA</p>
<p>The waivers allowed in 20 B 9 are not clear. If a waiver can be granted if the "actual extent" of the mixing zone is acceptable. It is unclear what will be accepted from permittees to define the boundaries. Example - HRSD has defined eight mixing zones. Will these studies need to be revisited? This will cost about 1.5 million dollars. Assume the intent is not to overturn past decisions made regarding mixing zones studies (other than simple default dilution assumptions). Provided substitute language.</p>	<p>VAMWA</p>

Staff Response to Mixing Zone Comments

Agree that certain clarifications are needed. The section has been rearranged so that the freshwater requirements and the saltwater requirements follow each other. The diffuser requirement in saltwater follows the sizing requirements for saltwater. "Properly designed subsurface diffuser" has been changed to just "subsurface diffuser" because "properly designed" cannot be defined for every situation. Drifting aquatic organisms were added to the list of protected organisms for saltwater since this is a standard requirement for all mixing zones per EPA guidance.

The subsection that describes the "allocated impact zone" has been changed to say that the acute aquatic life criteria are not required to be attained rather than shall not be attained, since in some instances, the acute criteria may, in fact, be attained in this area.

Related to mixing zones but in section 9 VAC 25-260-5 (Definitions), the mixing zone definition is clarified to say that designated uses in the water body on the whole are maintained. This condition is noted in EPA permitting and water quality standards guidance and is an important and often overlooked concept of mixing zones.

Disagree that mixing zones should appear on the impaired waters list. The concepts behind a mixing zone are that designated uses in the water body on the whole are maintained, that it is a small area where acute and chronic conditions may be found yet there is no lethality. This has been reflected in the definition of mixing zones. Mixing zones do not violate antidegradation since expanded mixing zones are not allowed in Tier 2 or 3 waters. Disagrees that mixing zones are violations of the Clean Water Act since the Act sets up requirements for discharge under the NPDES. Mixing zones are also allowable options under 40 CFR 131. Signs around mixing zones to warn of health risks may be necessary if health risks did in fact exist. We are only aware of one mixing zone that may have a risk of being too hot for people to swim in the summer (thermal power plant discharge). We understand the Health Dept and the power company are working on appropriate signs to warn boaters not to swim in those waters during the summer.

DEQ staff believe the mention of the endangered species act in the mixing zone policy is sufficient to remind the reader that ESA cannot be violated. Agree that a procedure should be written into the permit guidance to enable the permit writer to confirm whether the mixing zones occur where Federally listed species occur and what to do if they do occur.

Disagree that mixing zones "shall" be allowed be reinserted. Staff thinks mixing zones "may" be allowed to give the agency the ability to deny a mixing zone if needed for public health or protection of endangered species. This was discussed at length with stakeholders because DEQ staff felt they were required (shall use mixing zones) to use mixing zones when, in fact, they should be able to deny when appropriate. Even if all instances where dilution was not allowed were listed, we still believe that mixing zones "may" be allowed would be the choice of words. The same flexibility should be included in the waiver allowances. Any allowance or waiver to exceed criteria in state waters should provide the permitting authority with as much ability to deny that waiver.

Staff Response to Mixing Zone Comments, cont....

Disagree that the sizing requirements in saltwater are arbitrary, all of the mixing zone requirements have been taken from the EPA's *Technical Support Document for Water Quality Based Toxics Control* and the *WQS Handbook*.

Staff also would like the Board to note the additions to the DPB economic impact assessment provided. These costs add more information to the costs DPB devised as well as provide information related to customer rate increases. Also note that the dilution factor of 50:1 is not representative of dilution in all tidal waters.

Waivers were allowed (subsection B.9) to the sizing requirements of mixing zones if the discharger demonstrated that the mixing zone was appropriate. The waiver also specified that the discharger had to demonstrate no violation of the Endangered Species Act. The USFWS commented that the Board did not have the authority to determine whether or not the ESA was violated. Therefore, this condition for a waiver was removed from the waiver requirements.

Agree with the comment that waivers should also be allowed for the diffuser requirements as there may be instances where the discharge does not impact the aquatic life or it is technologically infeasible to install a diffuser.

Agree that cooling pond lakes/reservoirs which have been built to be mixing zones for cooling water are exempt from the "no mixing zone" provision for lakes in the policy. This was never intended and we have added a clarification that 316(a) thermal mixing zones are considered to be in conformance with all the requirements of this section (which would include the "no mixing allowed in lakes or swamps") rather than subdivision.

Agree that persistent and bioaccumulative toxics should be given careful consideration before issuing mixing zones. This is reflected in EPA guidance. A restriction of this magnitude would require full public participation and a intensive economic impact assessment. However, we do think the issue deserves attention and it will be included in the Notice of Intended Regulatory Action next triennial review.

Disagree that the terms *allocated impact zone* and *zone of initial dilution* are the same term. The AIZ may or may not correspond to the ZID which refers to the first physical step of the mixing process.

Disagree that only acute criteria should be met at the edge of the zone of initial dilution in the diffuser requirement. The intent here has been clarified to state exactly which criteria (acute and chronic) apply at the edge of the zone of initial dilution.

Agree that the DEQ statement that discharges to saltwater will include a review of mixing zones "where mixing zones have not been defined" means a review of mixing zones based on default values. Previously approved defined mixing zones will not need to be redefined under these new requirements.

Summary of Comments Received on Antidegradation 9 VAC 25-260-30	Organization
Do not change the antidegradation policy at this time as it has been working effectively and we should continue with the existing approach.	VMA
The EPA mandated changes should be adopted.	JRA, Audubon
The Board has the authority to protect water quality from all sources of impacts, including nonpoint.	Audubon, LWC
A parameter by parameter approach should be implemented in Tier II waters as water quality must be maintained in these waters. If instream water quality exceeds the water quality standard, than that quality should be maintained. Otherwise, a single water quality impairment may cause the loosening of water quality standards for other parameters, resulting in an overall decline in water quality.	Audubon
The Water Quality Management Plans should be continued.	Audubon
Make direct reference to agriculture, forestry, urban runoff as the nonpoint pollution requiring "cost-effective and reasonable best management practices".	JRA, Audubon
We have seen success in applying the standards to point sources and equal success in controlling nonpoint source will remain elusive as long as interagency barriers, separate policies, regulations and laws remain.	Riverkeeper
Delegation of the Clean Water Act rests with DEQ and water quality standards must recognize the importance of nonpoint source controls to improve impaired streams.	JRA
Objects to exemptions of thermal discharges made under 316(a). It is unfair to other dischargers that must comply with WQS and contrary to designated use protection because 316(a) does not address human health.	JRA
Holistic or water body approach to antidegradation should be retained. This is the preferred approach for directing resources to problems causing WQS nonattainment and to retain available assimilative capacity of waters for needed economic growth, rather than precluding the use of the capacity in waters failing go meet criteria for other parameters.	VAMWA

Summary of Comments Received on Antidegradation, cont...	Organization
<p>This flawed approach could potentially allow unacceptable water quality degradation in 2906 miles of river and streams impaired by contaminants including benthic impacts, pH, toxics, temperature and dissolved oxygen. Another example is presented in the draft WQMP for the Potomac-Shenandoah River Basin. The proposed allowable loading for biological oxygen demand (BOD) is 9102 lbs/day, almost 3 times as much (3454 lbs/day) as was allowed under the previous plan because the Shenandoah was re-classified as Tier I after high levels of mercury resulted in a fish consumption advisory. By re-classifying most of the river as Tier I, more oxygen demanding pollutants are now allowed. Yet many portions of the South Fork Shenandoah are spring fed with water quality adequate to sustain year-round trout populations. Unfortunately, if only protected at Tier I minimum levels, the dissolved oxygen levels could be degraded below levels necessary to sustain trout. The following statement should be added to 9 VAC 25-260-30(A)(1) <u>This level of minimum protection (Tier1) shall be implemented on a parameter-by-parameter basis. For all parameters where instream water quality exceeds the associated water quality standards, Tier II protection, as defined in 9 VAC 25-260-030(A)(2) shall apply.</u> This would ensure maintenance of water quality for each parameter as required by 9 VAC 25-260-20(A)(2).</p>	<p>CBF, cont.</p>
<p>The antidegradation language should be modified to indicate that the policy applies to all state regulated activity with the potential to affect surface water quality. This would include point sources and regulation non-point sources. This would address EPA's concern without appearing to contemplate regulation of activities over which the state has no jurisdiction. Implementation of antidegradation should employ the current water body or holistic approach rather than a parameter by parameter approach. The parameter by parameter approach may not be possible because there may not be enough data to make tier 1 vs. tier 2 decisions for every parameter. A holistic approach is more appropriate because antidegradation decisions are centered on uses, not on the individual criteria. This decision regarding implementation should not result in changes to the regulation.</p>	<p>Navy</p>
<p>Supports the clarification of the antidegradation policy, with language changes and defining of Tiers 1,2 and 3.</p>	<p>DCR</p>
<p>Opposed to proposed changes as it implies that any activity can come under the authority of the SWCB and the SWCB has no authority to control nonpoint source pollution.</p>	<p>Farm Bureau</p>

Summary of Comments Received on Antidegradation, cont...	Organization
<p>Supports the changes to the antidegradation policy. The Federal antidegradation policy is a statement of protection of all waters and was not written to describe how or by whom water quality will be regulated.</p>	<p>USFWS</p>
<p>Believes that at Tier 2 waterbody exceeding a pollutant criteria should remain a Tier 2 waterbody. Degradation can occur in a waterbody due to anthropogenic activities which can be altered to allow the water body to be fully Tier 2. Other water quality standards exist to recognize naturally occurring conditions outside water quality criteria. Downgrading a waterbody based on a single parameter is contrary to the intent of the Clean Water Act.</p>	<p>USFWS</p>
<p>Supports clarification of antidegradation policy.</p>	<p>DCR</p>

Staff Response to Antidegradation Comments

Staff believes we should make the changes to the antidegradation policy recommended by EPA but do not agree that these changes suggest the Board should institute a regulatory nonpoint source program as some comments suggested. The Attorney General's Office has provided an opinion stating that it is arguable that the State Water Control Law is broad enough to confer upon the Board authority to adopt specific nonpoint source regulations. However, the Attorney General's Office also notes that the General Assembly has not granted such specific authority to the Board while it has granted the Board particular authority to regulate point source discharges (1983-1984 Op. Atty. Gen. Va. 463). Similarly, it is clear that the Board has specific authority to adopt regulations to enforce its general point source water quality management programs, but has no explicit authority to control by regulation the water quality effects of nonpoint discharges (Id). If the Board attempted to regulate nonpoint discharges without a statutory authorization, it is the Attorney General's Office unofficial opinion that such regulation might well be invalidated in court if challenged (December 14, 2001 letter from Rick R. Linker, Assistant Attorney General, to Dennis Treacy). The June 8, 1990 memorandum from John R. Butcher, Assistant Attorney General to Richard N. Burton, Executive Director State Water Control Board; RE: SWCB Authority to Regulate Runoff letter presented as a comment to the Board, does not dispute this. However, we do agree that the statement made in the August 26, 2002. *Virginia Register of Regulations*, Volume 18, Issue 25; p 3455 that "The Board has no authority in statute to control nonpoint source pollution" should have referred to the Attorney General's opinion above rather than make the broad assertion that the Board had no authority.

We do agree that nonpoint source controls are necessary to improve impaired streams and will continue to work with the Department of Conservation and Recreation to implement voluntary controls via the Total Maximum Daily Load program.

We do not agree that the policy should indicate that it applies to all *state* regulated activity with the potential to affect surface water quality. The suggestion made here was so that the policy would include point sources regulated by DEQ as well as nonpoint sources regulated by the DCR and other state agencies. DCR does not regulate nonpoint sources. We believe EPA will only accept a policy that conforms to the federal language. Any change that indicates the policy was limited would not be acceptable; even though in reality, many aspects of antidegradation protection rely only on voluntary actions.

We do not agree that thermal discharges allowed under §316(a) of the Clean Water Act are exempted in the antidegradation policy. A successful 316(a) determination is considered to be in compliance with the antidegradation policy because designated uses in the water body are maintained under §316(a). EPA also accepts §316(a) determinations as acceptable under antidegradation in 40 CFR 131.12 (a) (4).

Staff Response to Antidegradation Comments, cont...

The staff asked the public for comment on how DEQ decides whether a water body is determined to be Tier 1 or Tier 2. Tier 1 waters meet or are below water quality standards, Tier 2 waters are better than standards (high quality waters). This implementation issue came up during the advisory committee meetings for this rulemaking. Current implementation guidance dictates where waters that *meet* water quality criteria or where *one or more* water quality criteria are exceeded (except for fecal coliform and in some cases temperature) that DEQ establish the water as *Tier 1*. If water quality concentrations are *better* than *all* the criteria, the water body is established as *Tier 2*. This is referred to as the *holistic* or *waterbody* approach. Permit limits in Tier 1 waters are established by determining the waste load allocations that result in attaining or maintaining all water quality standards. Such waste load allocations will provide for the protection and maintenance of all existing uses. Permit limits in Tier 2 are established so that no significant degradation of the high quality water is allowed. This is an acceptable approach to EPA and the agency currently implements permits in this manner. The concern by some groups is that this approach would allow water quality degradation in Tier 1 waters for all parameters, even if only one parameter established it as Tier 1.

However, EPA also allows for a *parameter by parameter* approach in setting tiers. This approach means that tier status (i.e. the baseline) is set for each parameter rather than the water body. This way, a stream may be tier 1 for one parameter (and regulated at the level set by the water quality criterion) but tier 2 for another (regulated so that no significant change to background is noted). This approach is more stringent than the holistic approach.

We acknowledge that EPA allows for both approaches and we gratefully acknowledge all the input provided us on this issue. One commenter suggested we switch to the new procedure by amending the regulation to state that the parameter by parameter approach would be used. Staff would like to keep this an implementation issue and not make changes to the regulation. The agency will consider all these comments in rewriting the implementation guidance after finalization of the triennial review.

<p>Summary of Comments Received on Swamp Waters 9 VAC 25-260-50 and 470</p> <p>Wetlands should not be designated for swimming or boating since it is not practical to swim or boat in the wetlands.</p> <p>Wetlands support a variety of natural heritage resources and should be defined in the regulation by type, include a procedure for delineation and established criteria dependent on wetland type and function. A statement should be included that certain functions are unique to each wetland system.</p> <p>Wetlands should not be listed in the standards but referenced via an acceptable source. A separate committee should address the issues related to wetlands. An alternative would be to classify all wetlands as Tier III.</p>	<p>Organization</p> <p>Navy</p> <p>DCR</p> <p>CBF</p>
<p>Staff Response to Swamp Water Comments</p> <p>DEQ agrees many swamp waters do not support primary contact but to remove a recreational use designation will require a use attainability analysis for each swamp. Many swamps are also naturally contaminated with wildlife fecal pollution.</p> <p>Agree that there are many issues, functions and unique qualities with wetlands but currently wetlands are adequately protected for water quality impacts via the statewide surface water criteria. Disagree that all wetlands should be classified as Tier III as many wetlands would not meet the exceptional waters criteria for Tier III.</p>	

Summary of Comments Received on Criteria 9 VAC 25-260-140	Organization
<p>In Section 60 (Rise Above Natural Temperature), language should be added that "at no time shall the temperature exceed 104°F". This is a VDH heat required for personal use in pools and spas. If water above this temperature is harmful to humans in a controlled environment, then it would surely be dangerous for human contact in rivers and streams. Water above 110°F causes burns and cannot be permitted.</p>	<p>JRA, Riverkeeper</p>
<p>Support language that clarifies the temperature criteria.</p>	<p>DCR</p>
<p>A maximum temperature of 32°C should be established for Class II waters to restrict thermal discharges to critical habitat areas for fish, shellfish and recreation.</p>	<p>JRA</p>
<p>"Natural temperature" should be determined without the influence of point and nonpoint sources.</p>	<p>CBF</p>
<p>Supports application of the aesthetic drinking water criteria at the drinking water intake point as these are secondary, non-enforceable drinking water regulations. This allows for reasonable implementation and results in protection of the water body use.</p>	<p>VMA</p>
<p>Supports the 24-hour average cadmium criterion. The existing one-hour averaging period was designed to protect against fast-acting toxicant like ammonia. Encourages the Department to continue to evaluate the averaging periods where toxicological data support such a decision.</p>	<p>VMA</p>
<p>The policy for protection of human health and aquatic life should be as protective as possible to match the zero release goals of the <i>Chesapeake 2000 Agreement</i> and <i>Toxics Strategy</i>. Use conservative methods.</p>	<p>VMA</p>
<p>The Class C carcinogens should be calculated using the oral slope factor with the risk level approach.</p>	<p>Audubon, CBF</p>
<p>Objects to the less stringent saltwater copper criterion. The basis for this decision is questionable and less protective of water quality and aquatic life.</p>	<p>CBF</p>
<p>Objects to the use of conversion factors and has provided extensive comments on this in the past and incorporates those comments by reference.</p>	<p>JRA</p>

Comments Received on Criteria, cont...	Organization
<p>Provided comments for removal or updating for the following criteria: aldrin, cadmium, cyanide, DDT, 2,4-D, lead, methoxychlor, mirex, nickel, strontium 90, tritium, selenium, TBT, zinc and ammonia. Questioned the basis for many of these compounds.</p>	<p>VAMWA</p>
<p>Supports adoption of all 304(a) criteria. Concerned that some criteria proposed are less stringent than EPA's (copper, lead, TBT, iron, mercury not designed to protect wildlife, no criteria for total PCBs for aquatic life). Raising the copper criteria can allow for increased loadings to state waters, increased toxicity, increased exposure, increased concentrations in sediments and physical, chemical and biological processes may alter the bioavailability of copper once discharged. The lead and TBT criteria may not have considered the sensitivity of mollusks. Other states have adopted criteria for mercury and PCBs that are designed to protect wildlife and the board should consider those. Need a minimum dissolved oxygen criteria for swamp waters of 4 mg/l.</p>	<p>USFWS</p>
<p>The aquatic life acute criteria should be defined as a <i>short duration</i> rather than the current <i>one-hour average</i>. The 1996 EPA saltwater criteria for copper is expressed as a 24-hour average. Lead and zinc have similar averaging periods. The California Toxics rule EPA defined acute criteria as a <i>short duration</i>. EPA acknowledges that that a more general definition like this allows application of the appropriate averaging period to the particular pollutant.</p>	<p>Navy</p>
<p>Supports adoption of the revised statewide criteria for copper based on the EPA approved recalculation. The study included toxicity data for two species present in the state that have not been tested by EPA and additional data for two species previously tested by EPA and deletion of toxicity testing results for four species not found in state waters. Deletion is allowed if there are organisms from the same family present in the database. This procedure ensures that all families protected by the national criteria continue to be protected. The resulting criteria are protective of aquatic life, but more accurate for the particular state.</p>	<p>Navy</p>
<p>The aquatic life criteria should reflect the most current scientific protocol.</p>	<p>DCR</p>

Staff Response to Criteria Comments

Ammonia - the updated ammonia criteria are not included in this final proposal because they were adopted under a separate rulemaking and have not been approved by EPA yet.

Aldrin - comment was that the chronic criterion is not included in EPA's latest 304(a) criteria guidance *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01). It is also not included in *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047). A chronic criterion has never been recommended by EPA as far back as 1980. Recommend deleting chronic criterion.

Cadmium Saltwater - A comment was received that the conversion factor has been applied twice to the saltwater criteria. Disagree - can't see where conversion factor has been applied twice. The proposed matches EPA 304(a) criteria published as *2001 Update of Ambient Water Quality Criteria for Cadmium*, April 2001, (EPA-822-R-01-001) and also the compilation of 304(a) criteria in *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047). Made no changes from proposed.

Cadmium Freshwater - comment was that freshwater value was less stringent and 40% of VAMWA municipals could not meet the new freshwater values. Our economic analysis showed that very few (3) municipals in the state had cadmium limits and the proposed change of criteria was not significant (more than one order of magnitude lower). Therefore, it was considered in the impact assessment, just not believed to have much of an impact. VAMWA presented no specific data to demonstrate that the new criteria with the longer averaging period could not be met. The criteria will remain as proposed as it represents the latest technical information and it is highly probable that EPA will not approve anything less stringent without scientific information to back it up. It is possible that site specific criteria for cadmium may be developed for various sites without trout, but no information was provided to make that determination at this time.

Copper - Comments were reviewed both in favor of and opposed to the new saltwater copper criterion. Recommend keeping criteria as proposed since EPA reviewed the science and stated it is approvable under the Clean Water Act. This means it is protective of saltwater organisms. Other comments related to copper and other metals were that they should be expressed as "short term" averages rather than 1-hour averages per EPA's more recent guidance. DEQ staff believe the metals averages should be listed with specific averages as data becomes available. Recent publications from EPA (Draft Saltwater Addendum reference in *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047) list the saltwater acute copper criteria as a 24-hour average (similar to cadmium). Recommend making this change.

Cyanide - comment was that EPA's latest 304(a) guidance in *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01) does not express cyanide to two significant digits. This is also true in the *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047). However, the reference for cyanide in the 2002 publication is the Jan 1985 Ambient Water Quality Criteria for Cyanide (EPA 440/5/84/028). This publication reflects EPA guidelines and lists the value as 1.0 µg/L with two significant digits, which is in conformance with EPA's *Guidelines for Deriving Numerical WQC for the Protection of Aquatic Organisms and their Uses*. In addition, DEQ is currently working to develop guidance related to how these significant digits will be used in permitting. Until the matter is settled, we disagree with the comment and the saltwater cyanide value remains as proposed as 1.0 µg/L.

Staff Response to Criteria Comments, cont...

DDT - comment was that EPA's latest 304(a) guidance in *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01) does not express DDT to two significant digits. This is also true in the *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047). However, the reference for DDT in the 1999 and 2002 publication is the Oct 1980 *Ambient Water Quality Criteria for DDT* (EPA 440/5/80/038). This 1980 publication reflects EPA guidelines and lists the value as 0.0010 µg/L with two significant digits, which is in conformance with EPA's *Guidelines for Deriving Numerical WQC for the Protection of Aquatic Organisms and their Uses*. In addition, DEQ is currently working to develop guidance related to how these significant digits will be used in permitting. Until the matter is settled, we disagree with the comment and the saltwater cyanide value remains as proposed as 0.0010 µg/L.

2,4 -D - comment was that the human health criterion per the *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01) and the 1991 guidance is 1000 ppb with the 10^{-5} risk factor. The *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047) also lists it as 100ppb but states that it predates the 1980 methodology and does not utilize the fish ingestion/BCF approach. This herbicide is not a carcinogen and it also does not incorporate a risk factor, so the comment is that it should be 1000 with the 10^{-5} risk factor is not valid. Recommend changing to match EPA 304(a) criteria of 100 ppb.

Lead - comment was that VAMWA had provided chronic testing data for *Acartia tonsa* which has not been incorporated into the recalculation of the criteria. Currently the acute lead criterion is 240 ppb and the chronic is 9.3 ppb. This was updated in 1997 with an advisory group's input (including VAMWA). A scientifically justified chronic criterion was calculated and approved by EPA after the 1997 triennium. The advisory group agreed additional chronic data was needed but no funding was or is available at DEQ to generate this data. If VAMWA has found or developed these data - please submit it and we will consider the update for next triennial review. Until then, the existing criterion is technically justified and should remain as proposed.

Methoxychlor - comment was that EPA's *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01) is 1000ppb (based on 10^{-5} risk level) vs. the proposed criterion of 40 µg/L. The 40 µg/L is an MCL which is not appropriate if EPA has a 304 (a) criterion for this parameter. Agree with this but do not agree that the risk factor applies. The EPA 304(a) value of 100 µg/L is not based on a risk factor as this is not classified as a carcinogen. Recommend changing the value to 100 µg/L.

Mirex - comment was that EPA's *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01) lists mirex at 0.001 µg/L, yet we propose it as zero. Zero has no basis. Comment is valid - however, this criterion is not scientifically based. It is a policy decision remaining from the Kepone pollution of the James River.

Staff Response to Criteria Comments, cont...

Nickel - comment was that the DEQ criteria do not match the EPA's 304(a) criteria. This is true - we were presented data in 1997 by USFWS that some aquatic species may be more sensitive and recalculated the criteria. This approach is the same approach we used to recalculate the copper criteria. Sometimes recalculations result in more stringent numbers. EPA has approved this criterion. Recommend leaving as proposed.

Selenium - comment was that the acute freshwater criterion did not match the most recent EPA guidance for this parameter. The *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047) provides the following recommendations for selenium:

- Fractions of total selenium (selenite and selenate) may be used. VAMWA pointed out that there are not 40 CFR analytical procedures to measure these fractions;
- EPA states that they are still working on this criterion and it may change significantly in the future;
- It is expressed as total recoverable but it is acceptable to list the CMC as dissolved if you incorporate the .996 conversion factor or .922 for the CCC.

We recommend keeping the dissolved acute and chronic criteria listed as proposed (multiplying the original value by the conversion factor does not change the original value using the two significant digit rule.) since this is the third option presented in the 2002 guidance and it seems probable that the fraction approach may change.

Strontium-90 and Tritium - comment was that there is no basis for this criterion and it is not recognized in any EPA guidance. These values are recognized the National Primary Drinking Water Regulations 40 CFR 141.16 and were determined to be appropriate to apply statewide in 1987. While these criteria may not match EPA 304(a) criteria, they have been using in permitting since 1987. Staff believes the removal of these radioactivity criteria should be carefully studied and presented to the public for comment. Next triennial review, we will consider adding a new MCL for public water supplies for uranium. When this criterion is presented to the public, we will also present for public comment the removal of the strontium and tritium criteria.

TBT - comment was that the TBT criterion does not match EPA's most recent draft calculations and provided numerous reasons why the DEQ basis for the TBT criterion is not appropriate. The most recent draft TBT criterion (*Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT) - Draft*) (EPA-822-B-02-001) from EPA is identical to Virginia's chronic saltwater value. EPA's new acute value has changed slightly (.37 to .38). Recommend matching acute criterion to EPA's and recommend keeping existing chronic criterion because it matches EPA's.

Temperature - Agree that human health issues related to burns have not been considered in implementation of thermal mixing zones and we plan to work with the VDH on this issue next triennium. This has not been considered in the past because it is not usually a concern. We understand the mixing zone that motivated this concern is being adequately addressed by the VDH and the industry via the placement of warning signs in the vicinity of the zone. No change to the temperature criteria for Class II waters is recommended at this time.

Staff Response to Criteria Comments, cont...

Zinc - comment was that the criteria do not match EPA's *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01) guidance which lists zinc as 9,100 ppb. The proposed value for zinc is based on a secondary non-enforceable MCL. We agree that if a 304(a) criterion has been published for a parameter, it should supercede a secondary MCL. It should be noted that this value does not match the *National Recommended Water Quality Criteria 2002* (EPA-822-R-02-047). This guidance uses the new Oct 2000 approach to calculating human health values. Recommend for human health, we retain the human health values consistent with EPA's *National Recommended Water Quality Criteria 1999* (EPA 822-Z-99-01) guidance since the 2002 methodology was not presented to the public during this rulemaking process and would constitute a significant change. Recommend this new methodology be incorporated into the next triennium. The value for zinc for public water supplies will be changed to 9,100 µg/L to match the 1999 EPA guidance.

Human health criteria - Agree with comments that conservative methods should be used for calculation of human health criteria (i.e. calculating Class C carcinogens using a risk factor). Stakeholders should also understand that these calculations will likely be updated next triennial review using even more stringent calculations per more recent EPA publications (Nov. 2002).

Conversion factors - Disagree that conversion factors should not be used. These conversion factors are part of EPA's 304(a) guidance, and we think we should follow the 304(a) guidance as closely as possible. In addition, EPA will not approve these criteria without the use of the conversion factors.

Summary of Comments Received on Secondary Contact 9 VAC 25-260-170	Organization
<p>Adamantly opposed to the secondary contact use designation. Primary contact recreation use should be retained for all waters in the Commonwealth. Classification as "wildlife-impaired" should be applied only in limited instances where a TMDL has been finalized and all point and nonpoint sources BMPs fully implemented. Any reclassification of waters must fully comply with public notification and comment requirements of the Administrative Process Act and adequate posting of the waters is essential. Any designation of secondary must require a use attainability analysis. The federal Water Quality Standards regulation states that even though it may not make sense to encourage use of a stream for swimming, the States and EPA must recognize that swimming or wading may occur anyway. No law, regulation or guidance allows for a statewide revision of bacteriological criteria to apply to all waters designated for secondary contact. The Commonwealth should aim for the Clean Water Act goal to provide for recreation in and on the water and protect the highest uses. Most citizens have expectations that all streams are protected for wading, fishing and other recreational uses.</p>	<p>Audubon</p>
<p>Objects to secondary contact recreation. Any change from primary contact is a form of "backsliding" which is a potential threat to public health. Blatant attempt to remove stream segments from the list of impaired waters. The distinction between primary and secondary implies that all pathogens contracted by ingestion but pathogens can also be contracted by dermal contact when wading or fishing. Children can slip or fall in the water and ingest water. Children and parents will not know what is safe. This change will result in further erosion of the public's confidence in DEQ's ability to protect state waters</p>	<p>JRA</p>
<p>Endorses establishment of secondary contact criteria. This is not a move backwards on water quality protection. It establishes a more realistic approach to streams, primarily within agricultural areas based on their actual use. This enables the Commonwealth and stakeholders to focus efforts more appropriately and is a reasonable, realistic approach that will foster cooperation of landowners toward the goal of cleaner water.</p>	<p>VPF</p>
<p>Supports designation of a secondary contact and a relaxation of coliform standard for some stream reaches as long as aquatic life are supported, reasonable efforts have been made to achieve primary contact and downstream primary contact uses are protected.</p>	<p>HSWCD</p>
<p>Supports position of Franklin County, the Virginia State Dairymen's Association positions on secondary contact.</p>	<p>SVSWCD</p>

Summary of Comments Received on Secondary Contact, cont....	Organization
<p>Supports secondary contact, as it is an accurate designation of a stream that has a strong wildlife contribution or is inaccessible for human contact. This is a reasonable and cost-effective approach. Resources should be used to protect the primary waterways. The costs to landowners and to the Commonwealth required to implement TMDL strategies are cost prohibitive and this designation will minimize costs. We should be cautious and explore every option EPA allows to reduce economic pressures on farmers which could increase the exodus from agriculture and in the long run increase urban sprawl.</p>	<p>VSDA, VSFA</p>
<p>Supports secondary contact water quality standards. This will provide the TMDL process with attainable goals. Concerned that millions of dollars will be invested for streams where the present bacterial standards are unreasonable and unachievable. Natural contamination from wildlife supports the need for a secondary standard or else these streams may never be removed from the impaired waters list. Holman's Creek TMDL allocation requires reducing septic and cattle loading by 100% and wildlife by 90%. It is highly unlikely the watershed will attain this degree of restoration unless the standard is changed. It is difficult to implement specific reduction measure until we first define practical bacterial loads that we are able to remove. Public support requires us to develop clear and simple directions of what is possible to achieve.</p>	<p>Arner</p>
<p>An analysis of the benefits to be derived from cleaning up our stream to meet primary contact standards should be done. There are huge benefits derived from clean water (commentor provided an excerpt from a paper titled "Paving Our Way to Water Shortages: How Sprawl Aggravates the Effect of Drought" on benefits).</p>	<p>LWC</p>
<p>Opposed to secondary contact designations. Approving secondary contact criteria will create a less stringent cleanup goal, will encourage TMDL model results to be misused, will provide a disincentive for cleanup by landowners and will cause a de facto change in standards for the entire watershed. There are large error margins in the TMDL model (at least 10%) and the Catocin Creek TMDL showed wildlife exceedances were in the range of 3% - 6% based upon one period of low flows. With this margin error, it is likely the standards will be fully met once BMPs installed. Changing to secondary will send a message to polluting landowners that by doing nothing the problems will go away. Changing to secondary may only be appropriate after all reasonable efforts have been made to cleanup.</p>	<p>LWC</p>

Summary of Comments Received on Secondary Contact, cont....	Organization
<p>Supports secondary contact. Some streams may be too shallow and inaccessible, wildlife prevents attainment of primary contact uses, primary contact is likely to require financial and other resources from local government and landowners, primary contact designations could severely limit the use of them for agricultural purposes and force farmers to rely on groundwater. This limits the availability of groundwater for other purposes.</p>	<p>VACo</p>
<p>Supports secondary contact. Specifying numeric criteria for secondary contact will ensure that a guaranteed level of protection is in places. However, the proposal defaults to very stringent concentrations for bacterial indicators, even though EPA has proposed less stringent criteria protective of recreational uses. The rejection of EPA’s less stringent criteria and selection of the most stringent numbers is not explained, and the impacts of that decision on the affected parties is omitted from the economic analysis.</p>	<p>VAMWA</p>
<p>Supports secondary contact recreation uses and criteria. Many streams do not have the characteristics to provide for full body immersion or ingestion. Determining uses should be done in a streamlined and scientific manner. The best time to do the use attainability study would be during the TMDL process.</p>	<p>Farm Bureau</p>
<p>Secondary contact is appropriate in some locations. The VDH districts have already engaged in an assessment of primary, secondary or no recreational use with the intention of establishing a level of health risk associated with an exceedance of the water quality standard at that site (i.e. no consideration of downstream uses). This information may be used by the DEQ as one part of the use attainability analysis. The VDH is willing to work with the DEQ to make use attainability decisions. Recommends a numerical criterion for secondary contact to be no greater than five times the primary criterion.</p>	<p>VDH</p>
<p>Fully supports secondary contact recreational classification and standards. The criteria would provide a level of protection to waters currently misclassified rather than reduce the level of protection afforded to any waterbody in the Commonwealth. Objects to blanket designation to all waters as primary. Actual water uses for two hundred years in Franklin County has been for agriculture. The desires of the local community for water uses should be considered and farmers not forced to spend limited resources (with falling milk prices and already high debt) to bring a stream to primary when that is not the preferred use. Substantial investments would be made (approx 1.4 million to implement a typical TMDL) to bring waters up to primary contact when many of those waters were never used for primary contact nor will ever be used for primary contact because the waters are too shallow to swim, have low flow, are inaccessible, impaired by wildlife and are legitimately used to support agricultural uses. Must also consider impacts on already depleted groundwater resources if animals not able to access streams for watering.</p>	<p>Franklin Co.</p>

Summary of Comments Received on Secondary Contact, cont....	Organization
<p>The board should include a petition process for designating waters for "agricultural use" on a site-specific basis. The petition process would be adopted in the regulation (similar to the "early life stages absent" provision for ammonia criteria) and would allow designations without undertaking additional resource-intensive rulemakings. To make a secondary contact designation information on existing uses, local objectives, costs and benefits and local social and economic data should be included. Franklin County would be willing to work with DEQ to evaluate a pilot program to evaluate a small group of waters for appropriate recreational use designations for waters that have TMDLs developed. It is necessary to have these criteria adopted so that we are ready to protect secondary contact uses when waters are properly designated in the future. The board should select one bacterial indicator for freshwater to avoid redundancy.</p>	Franklin Co.
<p>Primary contact designation and criteria are unreasonable and unattainable in production agricultural areas. Wildlife signatures from bacterial source tracking reveal 20 -73% at 28 sites. Adoption of <i>E.coli</i> criteria will result in more impaired watersheds. Must resolve situation or agriculture will be driven to extinction.</p>	RCFBA
<p>Designating a water as secondary contact should only be considered when all anthropogenic sources of contamination have been removed and the use attainability analysis completed.</p>	USFWS
<p>Supports bacteria criteria for secondary contact recreation. Health risk is lower for secondary uses like boating and fishing or where there are wildlife impacts. Could help avoid unnecessary 303(d) listings.</p>	Navy
<p>It has not been determined whether chlorine is effective in treating the new bacterial indicators, enterococci and <i>E. coli</i>.</p>	DCR
<p>Seasonal recreational uses may be appropriate and are allowed by federal and state regulation provided that the criteria are adjusted to reflect the seasonal uses and shall not preclude the attainment and maintenance of a more protective use in the swimming season (typically May 1 - Oct 31). Secondary criteria to protect for incidental exposure should apply during the non-swimming season to protect for incidental exposure. Because of the size of the waterbody, not all waters can provide a swimming use. DEQ should use EPA's six reasons before</p>	DCR

Summary of Comments Received on Secondary Contact, cont....	Organization
<p>removing designated uses when considering secondary contact uses. This study to remove uses or adopt secondary uses is called a use attainability study (UAA). UAAs are difficult, expensive and time consuming and DEQ should work with EPA to prevent these UAAs from being burdensome. Much of the UAA information can be gathered via the TMDL development and implementation process. DCR concludes that of the six reasons federal regulation allows for use removals, the three that apply in Virginia are because of naturally occurring pollution from wildlife, low flow conditions, and substantial economic impact.</p>	DCR
<p>The recently adopted <i>E.coli</i> criterion is more stringent than the fecal criteria and Virginia can expect the list of impaired waters to grow because of this.</p>	DCR
<p>Encourages the Board to carefully review these changes in light of the potential negative impacts on public health, water quality, and our ability to fulfill Chesapeake Bay Act commitments.</p>	Sierra Club
<p>Strongly opposed to secondary uses, with less stringent criteria. A more scientific and regulatory and statutory compliant approach would be to retain primary contact for all waters, develop TMDLs where impairment occurs, and implement all practicable point and nonpoint source controls. Where implementation does not work to protect the primary use, classify the water as "wildlife impaired" with appropriate criteria. "Wildlife-impaired" waters should be applied in limited instances where a TMDL has been fully implementation for all sources. The public must be notified if waters are not suitable to swimming because of contamination. Will DEQ post warning signs? The Clean Water Act and federal regulations specify that recreation in and on the water is the goal, where attainable, through the imposition of effluent limits and cost effective and reasonable BMPs for non-point source control. Federal regulation preamble also says that the States and EPA must recognize that swimming and/or wading may occur and criteria must be set to reflect recreational uses if it appears that recreation will occur. No law, regulation or guidance allows for a statewide revision of criteria to apply to all waters designated for secondary contact. Therefore, only option for waters presumed appropriate for secondary contact is a stream segment-specific Use Attainability Analysis with full public participation. The federal regulation provides six limited options for removing or sub-categorizing designated uses</p>	CBF

<p>Summary of Comments Received on Secondary Contact, cont.... and EPA guidance states that physical factors and low flow options are not allowed with regard to recreational uses. CBF is also strongly opposed to applying accessibility as a criteria for designated waters as secondary because many pristine streams that are potential Tier III (Exceptional) Waters are in remote areas and inaccessible. Must demonstrate that downstream waters are protected per federal requirements. DEQ should provide examples of secondary waters with the reasons why a downgrade is appropriate and what uses and criteria do apply. DEQ has provided misleading cost estimates to implement TMDLs for bacteria-impaired waters stating that these costs can be used as justification for adopting secondary uses for such waters resulting in TMDL avoidance and cost savings. This reasoning is inconsistent with EPA discussions that designation uses will not suffice to avoid TMDL development and implementation. Furthermore, these cost estimates do not take into account state and federal cost-share funding programs to pay for 75-100% of BMPs as well as low interest loans and funding from the Federal Farm Bill. Lastly, the costs are inaccurate because the proposal fails to estimate the cost of performing the Use Attainability Analysis for each water proposed for secondary. CBF also incorporated all previous comments on this issue as part of this submittal. CBF had previously asked DEQ to withdraw this proposal and opposed DEQs trend of downgrading standards.</p>	<p>Organization CBF, cont..</p>
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Staff Response to Comments on Secondary Contact

The Board has authority under section 9 VAC 25-260-10 (Designation of Uses) to remove, subcategorize or seasonalize recreational uses. Removal of the secondary contact criteria from this proposal will not change that. The addition of these criteria was decided to be the best way to let the public know exactly what levels of bacteria would be allowed in secondary contact waters, if any were designated. We thought this was preferable to having an unknown goal for these waters. Because without criteria, the acceptable levels would be decided for each water body.

Disagree that any change from primary is backsliding and a threat to public health. Use designation removals are allowed under the Clean Water Act and the federal and state water quality standards regulation. Each recreational subcategorization to secondary will follow a use attainability analysis as required by EPA. Full public participation will be provided.

Downstream uses will be protected. Furthermore, the Virginia Health Department also believes that secondary contact is appropriate in some locations and have already engaged in an assessment of primary, secondary or no recreational use with the intention of establishing a level of health risk associated with the criteria exceedences. A stream that would be designated as secondary is designated as such because there is no immersion. The criteria are designed to protect for incidental exposure that goes along with secondary contact and thus, there is no public health threat.

Disagree that there is no state law, regulation or guidance to allow for a statewide revision of bacteriological criteria. The law gives the board the authority to set standards of quality to protect uses. This is exactly what we have proposed. It is no different from setting trout stream or public water supply criteria and adding/changing uses as appropriate.

Disagree that EPA has proposed less stringent criteria protective of recreational uses. The secondary criteria proposed match EPA's recommendations for protection of secondary contact recreation. EPA has proposed different risk levels - but these have not been finalized or reviewed by the VDH.

Agree that some clean-up measures should be instituted before designating a stream as secondary. The regulation also requires that *at a minimum* uses can be attained by implementing cost effective and reasonable best management practices. Therefore to implement this requirement, we intend to use the "adaptive management" approach instituted by the TMDL program. This means that TMDLs will be implemented in stages. Typically, stage one implementation is removal of obvious inputs (cattle in streams, failing septic systems, straight pipes). As higher stages are implemented, more land based loading is removed. We plan to include this staged approach in the implementation guidance for secondary contact designations which will state that at least stage one will be implemented before considering changing uses to secondary. This should address the concerns that no improvements will be made if a water body is designated secondary.

Staff Response to Secondary Contact Comments, cont....

Regarding wildlife impairments - the DEQ does not think that "wildlife impaired" is an appropriate recreational use as it indicates an impairment rather than a recreational use. The Health Department has stated concerns about the unknown risk of disease from warm-blooded animals other than humans and giving these streams recreational use designations may not be appropriate. Therefore, DEQ staff is not convinced that designating waters as "wildlife impaired" is an appropriate use designation; although it is an appropriate reason for use removals or subcategorization. Also, DEQ does plan to implement some level of control (stage one) before removing uses based on wildlife impairments (see above paragraph response).

Agree that addition of secondary contact will foster cooperation of landowners towards more realistic water quality goals rather than allow them to "do nothing."

A blanket designation of primary may have been done too quickly back in the early 1970's and without full consideration of the impacts to landowners and the attainability of that use, due to circumstances such as natural wildlife contamination. However, that was the designation set and approved by EPA. Recent data and analysis conducted through the Impaired Waters List process and TMDL program indicate that attainment of primary contact recreation uses in ALL waters of the Commonwealth is not feasible or reasonable. Even with this new information, the federal and state water quality standards regulation will not allow us to remove primary use designations without use attainability analyses with public participation. While it seems to make sense that the desires of the local community for water and land use be a reason for changing uses, the federal regulations do not allow this. However, the regulations do allow consideration of social and economic impacts to the locality.

While we agree a "petition process" similar to the early life stage absent provision for ammonia would allow appropriate use changes without the resource-intensive rulemakings, we do not think this type of process is acceptable to the public. Commentors opposed to this issue want full public participation for secondary contact use designations.

DEQ is testing disinfection requirements to ensure that chlorine is effective in treating the new indicators. If not, permits will contain limits for the bacteria (rather than just chlorine residual).

Recommend leaving section as proposed except removing enterococci as a criterion for freshwater since enterococci does not apply in freshwater primary contact waters.

<p>Summary of Comments Received on Groundwater 9 VAC 25-260-190-240 and 9 VAC 25-280-10</p> <p>There should be recognition of the relationship of water quantity and water quality between the surface and ground water standards. The drought affects ground and surface water flows and the impacts on water quality should be acknowledged. The standards should require that every surface and ground water withdrawal should be evaluated for the potential impact on the other and the cumulative effect of all withdrawals must be assessed.</p> <p>Supports removal of the groundwater criteria and standards from the surface water quality standards. The groundwater provisions are in need of updating.</p> <p>Groundwater is essential for cave and karst resources and should be part of the water quality standards regulations. DCR would be interested in working with DEQ to update groundwater standards, policies and monitoring programs.</p> <p>Deletion of the groundwater standards and it's impacts should be clarified and documented.</p>	<p>Organization JRA, Riverkeeper</p> <p>VMA</p> <p>DCR</p> <p>CBF</p>
<p>Staff Response to Groundwater Comments</p> <p>Agree that groundwater quality is essential but moving these requirements to a separate VAC code has no impact on groundwater programs. It is an administrative move. In the past, the public has had difficulty finding the groundwater regulations that were embedded inside the water quality standards. This separation of rules will make it easier to find. Staff will continue to provide both rules to the public, keep both on the web site and make searches for water quality standards bring up the groundwater standards as well.</p>	

Summary of Comments Received on Special Standards 9 VAC 25-260-310	Organization
<p>Opposes deletion of special standard <i>q</i> which defines water quality standards contingent upon implementation of public water supply uses of the Rappahannock River upstream from Salem Church. Even though the dam has not been built, the standard has a present effect of protecting the upper Rappahannock from degradation because it puts on notice potential polluters that they will be required to meet the public water supply standards in the event the dam is built. The potential for such enforcement has discouraged development of new emission sources along the river. Remove reference to the dam and replace it with a reference to any potential public water access and intake points upstream from Salem Church to the headwaters. The Rappahannock should be protected as a water supply.</p>	Stetson
<p>Chickahominy special standard limits are not in agreement with limitations specific to the analytical methods used and suggest that there is more confidence in the limit than actually exists. Request that these limits be changed to 6 mg/l BOD and 5 mg/l TSS, respectively.</p>	VAMWA
<p>The NEW Policy needs to be reconsidered in light of the development of EPA nutrient-related water quality criteria. At a minimum, waters that are no longer deemed nutrient enriched by application of the forthcoming nutrient-related criteria should have their designation as such terminated.</p>	VAMWA
<p>Supports the concept of modifying ambient water quality criteria for metals based on the availability of WER studies and the inclusion of the proposed site-specific criteria for copper in Hampton Roads but do not concur with the boundaries confining the WER to just the Hampton Roads Harbor and the Elizabeth River. If the WER is based on waters having similar ligand properties, and waters from the Navy station in the lower Bay were used to calculate the WER, it seems defensible to include waters outside the currently designated region in the application of the WER. Provided data to support areas with similar ligand properties and provided alternate boundary descriptions.</p>	VAMWA
<p>DPB's analysis of the impact of the site-specific copper criteria on the Navy was incorrect. The analysis stated that one outfall had copper limits; however, five Navy outfalls have copper limits that are technology based and have no relation to the site-specific copper criteria. DPB quoted the Navy saying that approximately 300 storm water discharges may be required to comply with the proposed copper criteria if the DEQs policy of using BMPs rather than numeric effluent limits to control storm water and approximately 200 of the storm water discharges would be able to comply with the proposed site-specific standard. Actually, less than 50% of those discharges would be able to comply.</p>	Navy

Comments Received on Special Standards, cont...	Organization
<p>However, these are issues related to an unforeseen change in permitting policies and not the site-specific criterion.</p>	<p>Navy, cont...</p>
<p>Without the site-specific criterion, the water body might be listed as impaired when there is not impact to aquatic life as the study demonstrated.</p>	<p>Navy</p>
<p>Supports the adoption of the DEQ and EPA approved site-specific criteria for copper in the Hampton Roads area as it more accurately reflects conditions present in natural water bodies that affect the toxicity of copper. The site-specific criteria uses a <i>water effect ratio (WER)</i> which is based on laboratory toxicity tests, which use varying concentrations of pure metal in actual receiving stream water rather than lab water, in order to account for the receiving water conditions that affect toxicity. Copper WERs are common and have been performed for other estuaries. The WER from this study is similar to these other harbor WERs. The tidal portion of the Western Branch Elizabeth River should be added to the James River Basin (Lower) table and noted that special standard "z" applies (site-specific criteria). Section 1b should be modified to include the Western Branch and the tidal portion of its tributaries.</p>	<p>Navy</p>
<p>Does not support cancellation of special standard "d" for Aquia Creek because there is a federal and state endangered mussel and plant.</p>	<p>DCR</p>
<p>Do not support the modified Hampton Roads copper criterion as it may have adverse impacts on natural heritage resources.</p>	<p>DCR</p>
<p>The site-specific copper criterion in Hampton Roads should not apply beyond the outer-most sampling stations because extrapolation of water quality conditions beyond sample collection points is scientifically unjustified. The agency should review its policies, guidance and practices to ensure compliance with the <i>Clean Water Act</i> to eliminate discharges into navigable waters and the <i>Chesapeake 2000 Agreement</i> and <i>Toxics 2000 Strategy</i> goals to strive for zero release of chemical contaminants from all sources. Difficult to fathom how relaxation of criteria and increased loading of toxic contaminants will foster progress toward zero release.</p>	<p>CBF</p>
<p>Modifications to special standards should not be done without a rigorous scientific review.</p>	<p>CBF</p>
<p>Supports the site-specific copper criterion in section 310. This criterion was developed using an updated scientific data base and EPA has indicated it is "approvable" under the Clean Water Act.</p>	<p>VMA</p>

Staff Response to Special Standards Comments

Disagree that special standard *q* has protected the upper Rappahannock from degradation. This standard has been unused for thirty years. The building of this dam was an idea in 1972. Thirty years later, the Corps of Engineers cannot find any paperwork related to Congressional Authorization of the dam. It seems clear that the dam will never be built. If congress ever does authorize funds to dam the Rappahannock, it would turn this free flowing stream into a reservoir. That would be highly controversial and if it did happen, discharges wouldn't be allowed mixing (no mixing zones allowed in lakes). That would be more stringent requirements than what is listed in special standard *q*. Recommend deletion of this special standard.

Disagree that the Aquia Creek special standard should be retained. It has been replaced by Clean Water Act mandates.

The Hampton Roads site-specific copper criterion will remain as proposed. This criteria is protective of designated uses and aquatic life resources. It has been subjected to a scientific review by EPA scientists. Furthermore, the results were similar to other WER's for copper in estuaries. Regarding the boundaries of this criterion, staff did more data analysis of Bay program data and determined that the extended area suggested by the commentor was inappropriate (dissolved organic carbon levels in the extended boundaries are not the same at stations in the Harbor vs. stations near the Bay Bridge Tunnel).

Analytical methods for BOD and TSS can be measured to the tenth decimal place. Existing agency guidance dated 12/4/2000 lists acceptable BOD and TSS quantification limits from Standard Methods as two significant figures. Therefore, the Chickahominy special standards will remain as proposed.

Regarding nutrient enriched waters - DEQ agree this section should be reconsidered in light of EPA's nutrient related criteria. This process will begin this year.

<p>Summary of Comments Received on River Basin Section Tables 9 VAC 25-260-390-540</p> <p>Support the reformatting of the stream segments and uses for easier identification and for consistency in the numbering system.</p> <p>Agrees to reformatting to make regulations more user-friendly. However, recommends a phased approach after all technical changes completed to avoid complications. Numbering systems should be consistent with other programs.</p>	<p>Organization</p> <p>DCR</p> <p>CBF</p>
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Staff Response to River Basin Section Tables Comments

Staff recommends finalizing reformatting changes. We think it would be very confusing to the public at this point to take out the reformatted table and just make technical changes to the existing table. We do think more changes in formatting are needed and will phase those in during a later rulemaking.

Summary of Comments Received on Miscellaneous Amendments	Organization
Support the halogen ban.	JRA, CBF
Variances should be removed.	JRA
Include a hearing location convenient to the citizens of the upper Rappahannock river basin. The published schedule of locations and times for public hearings denys citizens their lawful rights to ask questions and express opinions about the proposal.	Stetson
Include a hearing location in the Shenandoah Valley.	VSDA, VPF, RCFB
Would like additional information to the process for granting variances to the halogen ban and whether it would be public notices. Variances to halogen compound may have adverse impacts for natural heritage resources. Supportive of maintaining the halogen ban to protect threatened and endangered species. If the chlorine standard is updated, the dechlorination requirement should be protective of aquatic habitats supporting natural heritage resources. Should explore chlorine alternatives.	DCR
DEQ should update list of critical waters that apply to the halogen ban.	DCR
Should include biological criteria, as this is a better indicator of long-term instream conditions.	DCR
Should include whole effluent toxicity criteria but not to replace the narrative acute and chronic criteria as these criteria reflect varying pollutant absorption rates and uptake.	DCR
Do not support the exemption of copper criteria for reservoirs as they provide habitat for natural heritage resources, which are impacted by copper.	DCR
The regulation should define how monitoring and analytical procedures for toxics should be conducted to maintain consistency.	DCR
General narrative criteria (floating debris, oil, scum, color, taste, odor, etc..) should apply at all flows and in mixing zones. Where waste discharge is proposed to low-flow waters and general narrative criteria not attained, the discharge should be prohibited.	CBF
New Nutrient Enriched Waters Designations should always be considered during triennial review and a prohibition of additional nutrient discharges to NEWs and impaired waters due to nutrient should be incorporated.	CBF

Staff Response to Miscellaneous Comments

The agency provided more than the minimum level of effort to notify the public and provide hearings in locations around the state. No additional hearings were conducted.

The variance section is necessary because it is desirable to EPA to allow a temporary variance until conditions change rather than remove the use via a permanent regulatory change. All variances are public noticed. They are seldom issued.

Staff did not update the list of endangered species waters for the halogen ban. No information has been provided to indicate the expansion of the halogen ban is necessary to protect these species. A dechlorination requirement may be a better approach. However, this is a significant change and not appropriate at this time. Recommend this as an issue for next triennial review.

Staff did not update the nutrient enriched waters section. Staff think it is not timely to move nutrient related amendments forward when we plan to begin the adoption of nutrient criteria in a few months.

Whole effluent toxicity and biological criteria would constitute significant changes with unknown yet probably large impacts. Staff recommends these issues be addressed during a future rulemaking.

Staff agrees that many of the "free froms" would not be allowed in mixing zones because our "free from" general criteria are more stringent than EPA's as it also restricts bioaccumulative substances and substances in excess of the standards. We plan to consider whether bioaccumulative substances should (or should not) be allowed mixing zones during the next triennial review. This may also result in a rewrite of the general criteria and how they apply to mixing zones. For now, we would like to explain in the permit guidance that no mixing zone should allow oil, scum, floating materials, etc...

List of Acronyms Used for the Organizations:

Arner = Happy Returns, Rob Arner, Pollution Specialist, Southeast RCAP
Audubon = Audubon Naturalist Society and Piedmont Environmental Council, Stella Koch, Virginia Conservation Advocate for Audubon and Gem Bingol, Field Officer for Piedmont
CBF = Chesapeake Bay Foundation, Jeff Corbin, Virginia Senior Scientist
DCR = Department of Conservation and Recreation, Derral Jones, Planning Bureau Manager
Edinburg = Town of Edinburg, Daniel Harshman, Mayor-Town Manager
Franklin = Richard Huff, II County Administrator, Bonnie Johnson, Assistant Administrator
HSWCD = Headwaters Soil and Water Conservation District, Charles Horn, Chairman
JRA = James River Association, Patricia Jackson, Executive Director
LWC = Loudoun Wildlife Conservancy, Darrell Schwalm
Navy = Department of the Navy, Mid-Atlantic Region, Christine Porter, Head, Regional Environmental Coordination Office, Dave Cotnoir, Will Hunley
RCFBA = Rockingham County Farm Bureau Association, Carl Luebben, Chair
Riverkeeper = Blackwater/Nottoway Riverkeeper Program, Jeff Turner, Blackwater/Nottoway Riverkeeper
Sierra = Sierra Club, Patricia DeZern, Director
Spotsylvania = Tim Slaydon, Spotsylvania County Director of Utilities
Stetson = Peter F. Stetson, Roseland Farm, Jeffersonton, VA
SVSWCD = Shenandoah Valley Soil and Water Conservation District, Dwight Newman, Chair, Randy Maupin, Vice Chair
USFWS = United States Fish and Wildlife Service, Karen Mayne, Supervisor, Virginia Field Office
VACo = Virginia Association of Counties, Larry Land, Director of Policy Development
VAMWA = Virginia Association of Municipal Wastewater Agencies, Mark Haley, President
VSDA = Virginia State Dairymen's Association, Dale Gardner, Executive Secretary-Treasurer
VSFA = Virginia State Feed Association, Dale Gardner, Executive Secretary-Treasurer
VMA = Virginia Manufacturers Association, Brett A. Vassey, President and CEO
VDH = Virginia Department of Health, Robert Stroube, State Health Commissioner
VPF - Virginia Poultry Federation. Hobey Bauhan, President
Westvaco = MeadWestvaco, Thomas Botkins, Jr

Detail of Changes

Please detail any changes, other than strictly editorial changes, that are being proposed. Please detail new substantive provisions, all substantive changes to existing sections, or both where appropriate. This statement should provide a section-by-section description - or crosswalk - of changes implemented by the proposed regulatory action. Include citations to the specific sections of an existing regulation being amended and explain the consequences of the changes.

Definitions (9 VAC 25-260-5)

Definitions are important to correctly implement and interpret the regulation. Several new definitions were added this triennium.

Amendments Proposed to Definitions

Definitions were added for drifting organisms, mixing zone, passing organisms, secondary contact recreation and swamp waters. These definitions are based on EPA and agency guidance. The swamp waters definition was written using expert opinion.

Changes to the Proposal Since the Board Authorized Public Hearings

A clarification has been added to the definition of a mixing zone to indicate designated uses in the waters body *on the whole* are maintained.

Mixing Zones (9 VAC 25-260-20)

The federal water quality standards regulation allows for mixing zones and EPA provides guidance on mixing zone concepts and minimum requirements for mixing zones.

Amendments Proposed to Mixing Zones and the General Criterion

The general criterion (9 VAC 25-260-20) is amended to recognize that mixing zones established according to the mixing zone policy, do not violate the general criteria. This is necessary to allow mixing zones and does not change existing implementation procedures. Also, mixing zone sizing requirements were added for saltwater discharges. This will result in re-evaluations of mixing zones for all tidal discharges where mixing zones have not been defined. These sizing requirements were taken from the EPA *Technical Support Document for Water Quality Based Toxics Control* (March 1991). Mixing zones are not allowed for effluents to wetlands, swamps, marshes, lakes or ponds. The Board via guidance has already implemented this prohibition.

Another amendment is the requirement for a subsurface diffuser for freshwater effluents to saltwater in order to obtain reliable mixing. This new requirement only applies to new or expanded discharges greater than 0.5 MGD.

Another amendment to the mixing zone policy is the recognition of existing State and Federal endangered species mandates in the mixing zone section at the request of the U.S. Fish and Wildlife Service. It is expected that existing discharges will not be impacted; however permits for new or expanded discharges in endangered species waters should now be forwarded to the Virginia Department of Game and Inland Fisheries for review of their impact on Virginia's Endangered Species (which includes the federal endangered species for Virginia).

Changes to the Proposal Since the Board Authorized Public Hearings

Several clarifications were made to the mixing zone policy in response to public comment. The term "saltwater" has been defined so it is clear exactly where the new saltwater sizing requirements apply. The section has been rearranged so that the freshwater requirements and the saltwater requirements are listed sequentially and the diffuser requirement in saltwater follows the sizing requirements for saltwater. "Properly designed subsurface diffuser" has been changed to "subsurface diffuser" because "properly designed" would be difficult to define. DEQ would review diffuser design case by case. Drifting aquatic organisms were added to the list of protected organisms for saltwater since this is a standard requirement for all mixing zones per EPA guidance.

The subsection that describes the “allocated impact zone” has been changed to say that the acute aquatic life criteria are not required to be attained rather than shall not be attained, since in some instances, the acute criteria may, in fact, be attained in this area. The subsections that describe where the criteria apply have been clarified to specifically state where the acute and chronic criteria apply rather than just where “all applicable criteria” apply. Specified that all waivers to mixing zones are done on a case by case basis (not just complete mix assumptions) as waivers will be case decisions and issued via the permit process. The USFWS commented that the Board did not have the authority to determine whether or not the ESA was violated as required in the waiver section. Therefore, this condition in the waiver section was removed (the ESA is still referenced in subsection B.8). Also, a waiver was added to the diffuser requirement, as there may be instances where the discharge does not impact the aquatic life or it is technologically infeasible to install a diffuser. Also, the waiver which says that thermal mixing zone requirements issued under 316(a) are in compliance with the subsection has been changed to say that 316(a) demonstrations are in compliance with the section. This is necessary because 316(a) is a Clean Water Act allowance that supercedes any mixing zone restriction set by the state.

Antidegradation (9 VAC 25-260-30)

EPA disapproved wording in the antidegradation policy that restricted implementation of the policy to only State Water Control Board regulated activities.

EPA provided guidance on how the removal of State Water Control Board regulated activities would impact other programs, especially voluntary non-point source programs. EPA stated that the Clean Water Act does not provide direct regulatory authority over non-point sources and that non-point source control would rely on a voluntary program to maintain water quality.

Amendments Proposed to Antidegradation

The proposal includes EPA's required changes to remove references to language that restricted the implementation of antidegradation to SWCB activities. These amendments to the antidegradation policy are not expected to have impacts on current permitting procedures.

EPA also required that the antidegradation policy be clarified so that there shall be achieved the highest statutory and regulatory requirements applicable to all new *and existing* point sources discharges of effluent ... rather than all new *or increased* point sources as it currently reads. This amendment is considered minor and reflects existing implementation practices.

A staff initiated amendment was made in 9 VAC 25-260-30.A.3.b.(3) where activities allowed in Tier 3 waters are listed. Currently the regulation states that *nonpermitted* activities causing temporary sources of pollution under the jurisdiction of the board may be allowed. The word *nonpermitted* is deleted (as well as the phrase *under the jurisdiction of the board* as described previously) so that any temporary activity (not just nonpermitted activities) may be allowed as long as water quality is restored.

Changes to the Proposal Since the Board Authorized Public Hearings

One change was made to the proposal by staff to better match the policy to EPA's federal water quality standards regulatory language. The language in 9 VAC 25-260-30.A.2 says, "In

allowing such degradation or lower water quality, the board shall *ensure* water quality adequate to protect existing uses fully. Further, the board shall *ensure* that there shall be achieved the highest statutory and regulatory requirements applicable to all new or ~~increased~~ existing point source discharges of effluent and all cost-effective and reasonable best management practices for nonpoint source control...." The federal regulation uses the term *assure* rather than *ensure*. In order to make the regulation conform to the federal language, the word *ensure* is changed to *assure*.

Swamp Waters (9 VAC 25-260-50 and 9 VAC 25-260-470)

Blackwater swamps in the southeastern part of the state have naturally low pH due to the tannic acids present in these systems. The agency has always had a Class VII (wetlands or swamp water) classification, but never placed any waters in this classification. Based on monitoring data, a number of these waters have been listed as impaired waters due to low pH levels. EPA has advised DEQ that appropriate pH criteria that reflect these natural conditions need to be adopted in order to remove these waters from the impaired waters list.

Amendments Proposed for Swamp Waters

The proposal removed the term "wetlands" from the classification and replaced it with the words "swamp waters." This was the original intent of this classification (to identify low dissolved oxygen and pH waters). Also, Class VII (swamp waters) have been identified in the non-tidal Chowan Basin. Added to this classification in section 9 VAC 25-260-50 are new pH criteria (4.3 – 9.0) that are more appropriate for these blackwater swamps that naturally have lower pH values. There are many more Class VII waters in Virginia, which we expect to add in future reviews of the regulation.

Changes to the Proposal Since the Board Authorized Public Hearings

There were no changes made to these swamp water changes from the proposal.

Criteria (Table of Parameters 9 VAC 25-260-140)

The table of parameters is always updated during triennial review to match EPA Region III recommendations and to reflect better scientific information.

Amendments Proposed to the Table of Parameters

The existing Table of Parameters is deleted and replaced with a reformatted table. This new table contains revisions of approximately 30 existing criteria and the addition of approximately 33 new criteria. The reformatted table contains information directly under the parameter names that once was formerly provided by footnotes. The reformatted table also contains chemical abstracts service (CAS) numbers and is expected to aid in readability of the table for the general public. In this table, the Board proposed criteria for all 307(a) pollutants recommended by EPA Region 3 in their most recent action on Virginia's previous triennial review. The staff used EPA's 1999 304(a) national criteria with some exceptions. One exception that received a lot of comment was the proposed saltwater aquatic life criteria for copper. These criteria were developed based on approved EPA procedures for recalculation of 304(a) criteria. While the number is less stringent, it is protective of aquatic life in saltwater and has been reviewed by EPA scientists as "approvable" under the Clean Water Act.

Other criteria proposed that did not match EPA's 1999 304(a) criteria include aldrin, arsenic, asbestos, barium, chloroform, 2,4 D, dioxin, iron, lead, methoxychlor, mirex, nickel,

radionuclides, vinyl chloride and zinc. We received comment on some of these exceptions, and appropriate changes made in response to public comment are described below.

We also proposed to move the application point of the drinking water taste and odor criteria to the drinking water intake rather than throughout the entire public water supply section (usually five miles). The VDH and EPA have agreed this is acceptable for these criteria which are not mandatory at the federal level.

Changes to the Proposal Since the Board Authorized Public Hearings

Several criteria were adjusted in response to public comment and/or to match EPA's 1999 304(a) criteria (aldrin, cadmium, 1,1 dichloroethylene, 2,4 dichlorophenoxy acetic acid, methoxychlor, zinc). The tributyltin acute criteria was slightly adjusted as a rounding change with no intended impact. Also, the averaging period for saltwater copper has been changed to match EPA's more recent guidance for metals. Staff also removed the statement preceding the Table of Parameters that read "For those waters with multiple designated beneficial uses, the most stringent criteria in the following table shall apply."

Dioxin (9 VAC 25-260-150)

The dioxin surface water quality standard is deleted and is moved to the Table of Parameters in 9 VAC 25-260-140. No changes made to the proposed.

Secondary Contact Recreation (9 VAC 25-260-170)

The Board adopted new bacteria criteria for primary contact recreation waters in 2002 because EPA had disapproved Virginia's fecal coliform criteria. This triennial review includes bacteria criteria for secondary contact recreation. These criteria would apply in waters where primary contact uses had been changed to secondary contact via the rulemaking process.

Amendment Proposed for Secondary Contact

Criteria for *E. coli* and enterococci were proposed for fresh and salt water to apply in secondary contact streams. These were based on EPA guidance for secondary contact protection. Secondary contact was also defined (low probability of immersion) at 9 VAC 25-260-5. A subsection was set up to list all the secondary contact waters but no waters are actually proposed with this rulemaking.

Changes to the Proposal Since the Board Authorized Public Hearings

The enterococci criterion was removed from freshwater to be consistent with the primary contact criteria (only *E.coli* applies in freshwater to protect primary contact recreation) the Board adopted last year. Another change recommended to be consistent with the primary contact criteria is to include transition zone waters under the enterococci criteria.

Groundwater (9 VAC 25-260-190-240 and 9 VAC 25-280-10)

Groundwater standards are not mandated by the Clean Water Act and there is no EPA review and approval of these standards. In a recent change to the federal water quality standards regulation, state water quality standards are not effective for Clean Water Act purposes until EPA approves them. Therefore, if groundwater remains with the surface water standards it will result in a different effective date for the groundwater sections of the regulation. It was

determined that the groundwater criteria should be moved from the surface water quality regulation.

Amendments Proposed to Groundwater

The groundwater criteria and standards are deleted from the surface water quality regulation (9 VAC 25-260-5 *et seq*) and moved to a separate Virginia Administrative Code (9 VAC 25-280-10 *et seq*). The groundwater standards, criteria, pertinent definitions and administrative language have been moved to the proposed groundwater regulation. The only changes in the language moved are insertion of the word "groundwater" in appropriate places and deletion of references to the Clean Water Act.

Changes to the Proposal Since the Board Authorized Public Hearings

No changes were made from the proposal on this issue. There were no significant comments in favor or opposed to this change, rather some questions about the deletion of this section from the regulation.

9 VAC 25-260-300 Classification of Tributary Streams

This section currently states that any tributary streams not classified in the regulation hold the same classification as the stream to which it is a tributary. No amendments were made to this section when the proposal was published.

Changes to the Proposal Since the Board Authorized Public Hearings

This section was clarified to indicate this requirement only applies to Part IX (river basin section tables) to avoid any future confusion over other types of designations including Tier 3 (exceptional waters) and secondary contact waters. The staff intends to list these types of designations specifically in other sections of the regulation.

Special Standards (9 VAC 25-260-310)

The special standards section has been updated. Many of these special standards are actually effluent limits developed in the late 1960's and early 1970's before the Clean Water Act or water quality standards were adopted. Other special standards are based on more recent site-specific studies.

Amendments Proposed to the Special Standards

Special standard "d" is cancelled because it has been replaced by other regulations. Special standard "m" is modified to clarify the intent of the application of the standard. Special standard "q" is deleted since its effective date hinges on Congressional authorization for construction of a dam on the Rappahannock River and this authorization has never been granted.

Also in this section, a site-specific copper criterion was developed for the Hampton Roads area. This number is based on the statewide-recalculated copper criteria (as discussed in Table of Parameters section above) multiplied by a water effect ratio. EPA allows for and provided guidance for calculating site-specific criteria using a water effect ratio. A water effect ratio is a variable in the calculation of aquatic life criteria for metals that quantifies the effects the local receiving water has on the toxicity of the metal. The default value is 1.0; however, toxicity testing of receiving stream waters can adjust this number upwards which results in a higher

criteria for the metal since aquatic life is still protected. The Navy conducted these tests in the Hampton Roads harbor and Elizabeth River and developed a water effect ratio for this area of 1.756. EPA has approved the study results on which this value is based. The specific geographical area in which the criteria apply is described as part of the criterion. In addition, the special standard is referenced in the river basin section tables (Lower James basin). This site-specific standard is listed as "z" in this section.

Changes to the Proposal Since the Board Authorized Public Hearings

Special standard "m" was modified to state that storm water was excluded from these requirements. That was the intent of the original amendment and staff thought it needed more clarification.

Scenic Rivers (VAC 25-260-320)

Amendments Proposed to Scenic Rivers

The Roanoke Scenic River designation has been modified to reflect the existing statute wording. These designations are placed in this regulation for informational purposes only.

Changes to the Proposal Since the Board Authorized Public Hearings

None

Special Standard Column (9 VAC 25-260-380)

This section explains interpretation of the special standards column.

Amendments Proposed to the Special Standards Column

This section has been revised to reflect what is written in 9 VAC 25-260-140, which is that the taste and odor criteria apply at the drinking water intake (see 9 VAC 25-260-140 above).

Changes to the Proposal Since the Board Authorized Public Hearings

A paragraph was added to refer the reader to the special standards section to see what water bodies apply to the special standards. Currently, the river basin section tables do not contain the detailed location information that is found in the special standards.

River Basin Section Tables (9 VAC 25-260-390 - 540)

Other updates are needed for triennial review to reflect new use designations and provide clarifications.

Amendments Proposed to the River Basin Section Tables

The public water supply, trout water designations and scenic river listings were updated. In addition, the boundaries of the Lower and Middle James were divided by the fall line to correspond with Hydrologic Unit Codes (HUC).

The Maury River special pH standard of 6.5 - 9.5 was extended to all the tributaries of the Maury River with limestone geology.

Changes to the Proposal Since the Board Authorized Public Hearings

Lower, Middle and Upper James sections and the Appomattox subbasin sections 9 VAC 25-260-410, 415, 420 and 430 have been expanded so that all the sections correspond to the Hydrologic Unit Codes (HUC). These changes were necessary to bring Virginia's Water Quality Standards in agreement with the USGS HUCs, so that the station creation routine in CEDSWQM (which is the DEQ ambient monitoring database) for the James Basin can be automated.

Staff determined that the Maury River pH standard of 6.5 - 9.5 was misapplied to some of the tributaries to the Maury River. Therefore, the higher pH standard was removed from some of the tributaries.

Family Impact Statement

Please provide an analysis of the regulatory action that assesses the impact on the institution of the family and family stability including the extent to which the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

The development of water quality standards is for the protection of public health and safety, which has only an indirect impact on families.